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ST. PETER'S.—No. 1.

[View of St. Peter's from the East, above the Bridge of St. Angelo.]

THE historian Gibbon, after alluding to the many beautiful edifices that adorn the ancient capital of the world, exclaims, "but these lesser stars are eclipsed by the sun of the Vatican, by the dome of St. Peter's—the most glorious structure that ever has been applied to the use of religion!"

"This temple," says Count Stolberg, "is the largest and most magnificent on earth!—the square before it is worthy of the temple; the temple of the square—each in its kind is the most magnificent in the world. No work of man ever seized upon and filled my mind like this."

These feelings of enthusiastic admiration are common to every person of taste that has visited this triumph of architecture and Italian genius, and rich and beautiful extracts might be made from writers of all countries who have paid their tribute to

> ———The vast and wondrous dome
> To which Diana's temple was a cell *.

It is this towering dome or cupola which mainly gives St. Peter's its sublimity, and blinds even the severe architectural critic to many technical defects which are undeniably involved in the structure of the whole.

The dome of the Pantheon, an ancient Roman edifice, still in a state of almost perfect preservation, had for many ages excited the wonder and admiration of mankind, and this Bramante, the first planner of St. Peter's, would have imitated in the modern church. But the dome of the Pantheon rested on columns and attained no striking elevation. "A similar cupola," said Michel Angelo with the confidence of genius, "will I raise in the air!" And this was done by constructing walls sufficiently strong to sustain the enormous weight.

In whatever direction the traveller approaches Rome, he sees the sublime dome towering into the blue heavens. It seems to invite him from afar, and increases the impatience which all must feel on a first visit, to arrive at the eternal city.

Like our own St. Paul's, but with the immense advantage of being almost constantly seen through the medium of a pure transparent atmosphere, it forms a grand and conspicuous object in almost every distant view of the city of which it is the glorious crown. It may be seen from the hills of Baccano on the north—from the lower Apennines on the east—from the volcanic ridges of the Alban mount on the south—and from the mast-head of a ship in the Tyrrhene gulf of the Mediterranean on the west—and in all these views it rises up from the broad flat of the Campagna, in which the "seven hills" and other elevations in the vicinage of Rome are of themselves ridges or breaks

* Lord Byron's "Childe Harold," canto iv. The temple of Diana of Ephesus, the wonder of the ancient world, is alluded to.

scarcely more perceptible than a distant wave at sea. It seems to reign in solitary majesty over all the dead and for the most part uncultivated level which surrounds the city; and is, perhaps, never so impressive an object as when seen thence, particularly on the stated festivals, on the evenings of which it is suddenly, nay almost instantaneously, covered with a flood of light. The reader may conceive this effect by fancying the dome of St. Paul's lighted up by innumerable lamps and torches; but he must add, in the case of St. Peter's, "the deep blue sky of Rome," without a cloud, without a vapour or wreath of smoke.

In general opinion, however, it appears to most advantage from elevated points within or near the city, where other objects can be brought into comparison with it. The tower of the Capitol, the front of the Quirinal palace, the bridge of St. Angelo, and the fields behind St. Peter's in the direction of the Villa Pampili Doria, are all fine points of view; but the best of these near points is that from the public walks on the Pincian Hill, and the best moment for enjoying it is towards sunset on a summer evening, as the dark mass then projects a bold and graceful outline against the bright western sky, and the horizontal rays of the sun pierce through and brilliantly illuminate the windows of the lantern under the cupola, thus producing a truly magical effect. It is here and on the bridge of St. Angelo that the people of Rome chiefly resort on the great festivals, when the cupola is illuminated. This splendid exhibition occurs on the eve, and on the evening of St. Peter's day, and on the anniversary evening of the reigning pope's election. At one hour of the night, in Italian time, or an hour after sun-set, rather from the immense number of hands employed than from any ingenious mechanical contrivance, the dome is converted into an hemisphere of liquid light, and this, as we have said, almost instantaneously.

On a still nearer view, or one taken from the piazza or square of St. Peter's, though the temple itself loses from the heavy, awkward structure of the front, which more than half hides the cupola while it is out of harmony with the general form of the church, yet the scene, from its accessories, is one of imposing sublimity. Instead of being cooped up like St. Paul's, St. Peter's there presents itself as the back-ground of a noble and spacious amphitheatre formed by a splendid elliptical colonnade of a quadruple range of nearly three hundred pillars.

A beautiful Egyptian obelisk which had once adorned the centre of the circus of Nero, and still remained standing on its original site, was removed by Domenico Fontana, one of the architects of St. Peter's, to this piazza or square, which was further beautified by two magnificent fountains, each consisting of an immense basin nearly thirty feet in diameter at the level of the pavement, with a stem springing out of the centre supporting two diminishing granite basins at different heights, and raising itself to a height of upwards of fifty feet. From the summit of each of these stems or shafts gushes and sparkles a torrent of water, the central jets of which rise to nearly seventy feet from the pavement in perpendicular height, and thence the water falls in a triple cataract from the summit of the jets into the upper, which is the smallest vase or basin,—then, passing over the rims of this upper basin in an enlarged column, it descends into the second basin, from which, in still greater volume, it drops into the lowest,—the largest basin of the three,—thus producing the beautiful effect of a cone of falling water.

The quantity of water thus in continual play is so great that the materials of the fountains are completely enveloped and hidden from view, though of course, owing to the translucency of the fluid, the general form of the fountains is obvious enough. The copious supply of water is brought by an ancient Roman aqueduct from the Lake of Bracciano, about seventeen miles from Rome.

The effect of these fountains is striking and beautiful beyond description, and unlike the mere water-works in the grounds of the French palace at Versailles, which are only made to play on grand occasions, their flow is perpetual and undiminished.

The grand colonnades of the piazza* are met at their western extremity by enclosed corridors which lead by an inclined plane up to the ends of the transverse corridors which join on to the vestibule of the church itself. These last form throughout a range of four hundred and eighty feet in length. At one of their extremities an equestrian and colossal statue of Constantine the Great stands in a niche, and a similar statue of Charlemagne occupies a corresponding niche at the other extremity.

Five portals, two of which are, however, comparatively diminutive, give access to the vestibule; and opposite to these portals five door-ways open to the interior of the wonderful temple. The doors are covered with bronze, which is worked into bassi-rilievi of great beauty.

Such are the principal features of the exterior of St. Peter's.

[To be continued.]

FLAYING ESTABLISHMENT AT MONTFAUCON.

A TRANSLATION into German has been made of Mr. Babbage's late work, "The Economy of Machinery and Manufactures," to which the translator has added some valuable notes. One of them contains an extract from a paper read by Professor Burdach to the Physico-Economical Society of Königsberg, on what is called the Flaying Establishment at Montfaucon, near Paris. This is probably the most curious example in the world of the manner in which materials, which are commonly thrown away, and scarcely even pay the cost of removing them, may be turned to profit. There are, no doubt, many other substances as well as the bones, flesh, and entrails of dead horses, which are daily allowed to run to waste in great quantities, and which, in like manner, under judicious and systematic management, and by the application of processes familiar to the present advanced state of the arts, might be saved and converted to important uses. The present account may serve as an illustration and indication of how this might be done.

The first person who instituted an establishment on a considerable scale for the profitable employment of what are commonly regarded as the waste parts of dead animals, was the son of the celebrated Cadel de Vaux. This was in the year 1816. Another chemist, named Fouques, also about the same time carried on a manufactory for the preparation of various soups and other sorts of food for beasts, from the flesh, bones, and entrails of animals that had died or been put to death as useless. But at present the principal establishments of this description are the two at Montfaucon, on the high ground to the north of Paris, where the business is confined to the flaying and profitable preservation of the parts of dead horses. One of these establishments belongs to a M. Dussaussais, and the other to a company. Some of the horses are dead when they are received,—others are brought to be killed on the spot. They then undergo the following processes:—

1st. First, the hair of the mane and tail is cut off. As, however, the long hair used for weaving of cloth is commonly wanting, the produce is but small, and will barely exceed a quarter of a pound of horse-hair, a pound

* It is curious how the people of London have reversed the meaning of the word piazza, which ought to be pronounced piatza. In Covent Garden, the only place where it is applied, the open square occupied by the market ought to be called the piazza, and not the colonnade which runs round part of it.

of which is sold for about five pence English. The produce of one horse, in this particular, is therefore about one penny.

2nd. The skin is now taken off, laid together, and sold, while fresh, to the tanners in the neighbourhood. It weighs in general about sixty pounds, and sells for from nine to twelve shillings English.

3rd. The blood is allowed to run to waste, and to flow on the ground, a circumstance which greatly increases the horrible filth at Montfaucon. If it were collected in gutters, it might be used either as food for cattle or as manure, and a cruor prepared from it for sugar-refiners, who pay for blood, so prepared, about two shillings and five pence the cwt.

4th. The shoes are taken off and sold as horse-shoes, if still good enough, or, if not, as old iron. The nails, likewise, are collected and sold, more particularly in the provincial towns. The profit from this source is about two pence per horse.

5th. The feet are cut off, dried, and then beaten on a hard surface, in order to detach the hoofs; or, in winter, they are left in heaps to putrefy, until the hoofs become loose. The hoofs are sold to turners, comb-makers, and manufacturers of sal-ammoniac and prussian-blue, who pay for them, if they are rasped, about one shilling and five pence.

6th. The fat is very carefully collected. First, that upon and between the muscles is separated; then the muscles are laid single on the table, and every little bit of fat picked out; and, finally, that of the entrails is detached. The collected fat is cut into small pieces and melted. Horse-fat is used for burning in a flame by enamellers and glass-toy makers. It is also used to grease harnesses, shoe-leather, &c. Soap is manufactured from it; and it produces gas for lighting. The pound is sold for five pence three farthings. A horse yields, on an average, eight pounds, worth about four shillings; well-fed horses will yield, however, as much almost as sixty pounds, bringing therefore nearly thirty shillings.

7th. The flesh is used for food by the workmen, who choose the best pieces for themselves, and leave the rest to dogs, cats, hogs, and poultry. The feeding of the workmen, however, with the flesh of such as have been killed, is a part of the system of economy that could not be practised in this country. Many circumstances show that a large number of the people of France resort to expedients for food which would be revolting to an Englishman. The flesh is used likewise as manure, and in the manufacture of prussian blue. A horse has from three hundred to four hundred pounds of flesh, which yields in this way a profit of from thirty to near forty shillings.

8th. The sinews or tendons being separated from the muscles, the smaller ones are sold fresh to the glue-makers, and the larger dried and disposed of in great quantities for the same purpose. A horse yields about one pound of dried tendons, worth twopence three farthings.

9th. Of the bones nearly three hundred and fifty thousand pounds are annually sold: the remainder serves for fuel, and chiefly for melting the fat. A considerable quantity is sold to cutlers, fan-makers, and other workmen who use bones; but more to the manufacturers of sal-ammoniac and ivory-black. The pound of bones sells for about a farthing English; and as a single horse produces ninety pounds of bones, the profit is about one shilling and eleven pence. The bones would, however, yield much more if they were ground in mills as is done in Auvergne and Strasburg; for the cwt. of bone-meal, an excellent manure, fetches nearly seven shillings and sixpence.

10th. The small guts are wrought into coarse strings for lathes, &c. The other entrails are piled up and sold in a state of putrefaction as manure. A two-horse load brings from four shillings and sixpence to nine shillings.

11th. Even the maggots, which breed in great numbers in the putrid refuse, are not lost. Small pieces of flesh and entrails, to the height of about half a foot, and slightly covered with straw, are piled up in the sun. The flies, attracted immediately, deposit their eggs in these, and, in a few days' time, the whole becomes a living mass, the putrefying substance being reduced to a very small quantity. The maggots are sold by measure, partly as baits for fishing, but chiefly as food for fowls and pheasants. The entrails of a single horse generate these maggots in such plenty as to yield a profit of nearly one shilling and sixpence. Many, besides, are metamorphosed into the musca carnaria, cæsar, and vivipara, so that there are, at Montfaucon, great swarms of these flies, which again attract vast multitudes of swallows, and make the neighbourhood of Montfaucon the favourite shooting-ground of the Parisian sportsmen.

12th. The rats at Montfaucon play a part equally important. As these animals find here abundance of food, and the females bring forth every year from twelve to eighteen young, there is an innumerable host of them in the place. Sixteen thousand have been killed in four weeks in the same room, without any decrease being perceived. They undermine the walls, so that the buildings give way, and can be secured only by surrounding the foundations with broken glass. The whole neighbourhood has been excavated by them to such a degree that the ground shakes beneath your feet. They are caught by placing the fresh carcass of a horse alone in an apartment, the walls of which have openings at the bottom. The next morning these holes are stopped, and all the rats killed; their skins are then sold at three shillings per hundred.

In this manner we see, that the various parts of a dead horse, converted into articles of trade and consumption, yield, according to a calculation which has been made, when of middling quality, two pounds thirteen shillings, and when very superior, nearly five pounds. A dead horse is bought at first for from nine shillings to thirteen shillings and sixpence,—to which add from four shillings and sixpence to six shillings as wages for the collector and labourers; still there remains a profit of about thirty-six shillings to the establishment. Now, according to the statement of M. Parent Duchâtelet, there are thirty-five horses, on an average, every day, or twelve thousand seven hundred and seventy-five every year, brought to Montfaucon from Paris and the surrounding neighbourhood;—this altogether affords a profit of about twenty-three thousand pounds sterling.

As another evidence that substances which appear spent and exhausted may sometimes still be rendered useful, we may mention in conclusion, that a Mr. Owen, a manufacturer of ivory-black at Copenhagen, has lately discovered a simple process by which to restore bone-black already used to its original value. The result is so perfect, that the same stuff may be used over again a number of times. This will be a great saving in the refining of sugar, and allow many bones to be preserved for other purposes. In no respect are the English people more wasteful than in the article of bones.

Pursuit of Knowledge.—By looking into physical causes our minds are opened and enlarged; and in this pursuit, whether we take or whether we lose the game, the chase is certainly of service.—*Burke.*

HYMN BEFORE SUNRISE IN THE VALE OF CHAMOUNI.

HAST thou a charm to stay the Morning-star
In his steep course? so long he seems to pause
On thy bald, awful head, O sovran Blanc!
The Arve and Arveiron at thy base
Rave ceaselessly; but thou, most awful form,
Risest from forth thy silent sea of pines,
How silently! Around thee, and above,
Deep is the air and dark, substantial, black,
An ebon mass: methinks thou piercest it
As with a wedge! But when I look again,
It is thine own calm home, thy crystal shrine,
Thy habitation from eternity!—
O dread and silent Mount! I gazed upon thee,
Till thou, still present to the bodily sense,
Didst vanish from my thought: entranced in prayer
I worshipp'd the Invisible alone.

Yet, like some sweet beguiling melody—
So sweet we know not we are listening to it—
Thou, the meanwhile, wast blending with my thought,
Yea, with my life and life's own secret joy:
Till the dilating soul,—enrapt, transfused,
Into the mighty vision passing—there,
As in her natural form, swelled vast to Heaven!

Awake, my soul! not only passive praise
Thou owest—not alone these swelling tears,
Mute thanks, and secret ecstasy! Awake,
Voice of sweet song! Awake, my heart, awake!
Green vales and icy cliffs, all join my hymn!

Thou first and chief, sole Sovran of the Vale!
O, struggling with the darkness all the night,
And visited all night by troops of stars,
Or when they climb the sky, or when they sink:
Companion of the Morning-star at dawn,
Thyself earth's rosy star, and of the dawn
Co-herald:—wake, O wake, and utter praise!
Who sank thy sunless pillars deep in earth?
Who fill'd thy countenance with rosy light?
Who made thee parent of perpetual streams?

And you, ye five wild torrents, fiercely glad!
Who call'd you forth from night and utter death,
From dark and icy caverns call'd you forth,
Down those precipitous, black, jagged rocks,
For ever shattered and the same for ever?
Who gave you your invulnerable life,
Your strength, your speed, your fury, and your joy,
Unceasing thunder and eternal foam?
And who commanded (and the silence came),—
Here let the billows stiffen, and have rest?

Ye ice-falls! ye that from the mountain's brow
Adown enormous ravines slope amain—
Torrents, methinks, that heard a mighty voice,
And stopp'd at once amid their maddest plunge!
Motionless torrents! silent cataracts!
Who made you glorious as the gates of Heaven,
Beneath the keen full moon? Who bade the sun
Clothe you with rainbows? Who, with living flowers
Of loveliest blue, spread garlands at your feet?—
God! let the torrents, like a shout of nations,
Answer! and let the ice-plains echo, God!
God! sing, ye meadow-streams with gladsome voice!
Ye pine-groves, with your soft and soul-like sounds!
And they, too, have a voice, yon piles of snow,
And in their perilous fall shall thunder, God!

Ye livery flowers that skirt th' eternal frost!
Ye wild goats, sporting round the eagle's nest!
Ye eagles, playmates of the mountain-storm!
Ye lightnings, the dread arrows of the clouds!
Ye signs and wonders of the element!
Utter forth God, and fill the hills with praise!

Once more, hoar Mount! with thy sky-pointing peaks,
Oft from whose feet the avalanche, unheard,
Shoots downward, glittering thro' the pure serene,
Into the depth of clouds that veil thy breast—
Thou too again, stupendous Mountain! thou,
That as I raise my head, awhile bow'd low
In adoration, upward from thy base,
Slow travelling with dim eyes suffused with tears,
Solemnly seemest, like a vapoury cloud,
To rise before me.—Rise, O ever rise!
Rise, like a cloud of incense, from the earth!
Thou kingly spirit, throned among the hills!
Thou dread ambassador from earth to Heaven!
Great hierarch! tell thou the silent sky,
And tell the stars, and tell yon rising sun,
Earth, with her thousand voices, praises God!

COLERIDGE.

THE BURROWING-OWL AND PRAIRIE DOG.

[The following interesting account of the burrowing-owl is abridged from the splendid continuation of Wilson's "American Birds," by Charles Lucien Bonaparte.]

VENERABLE ruins, crumbling under the influence of time and vicissitudes of season, are habitually associated with our recollections of the owl; or he is considered as the tenant of sombre forests, whose nocturnal gloom is rendered deeper and more awful by the harsh dissonance of his voice. In poetry he has long been regarded as the appropriate concomitant of darkness and horror. But we are now to make the reader acquainted with an owl to which none of these associations can belong; a bird that, so far from seeking refuge in the ruined habitations of man, fixes its residence within the earth; and instead of concealing itself in solitary recesses of the forest, delights to dwell on open plains, in company with animals remarkable for their social disposition, neatness, and order. Instead of sailing heavily forth in the obscurity of the evening or morning twilight, and then retreating to mope away the intervening hours, our owl enjoys the broadest glare of the noon-tide sun, and flying rapidly along, searches for food or pleasure during the cheerful light of day.

In the trans-Mississipian territories of the United States, the burrowing owl resides exclusively in the villages of the marmot or prairie dog, whose excavations are so commodious as to render it unnecessary that our bird should dig for himself, as he is said to do in other parts of the world, where no burrowing animals exist. These villages are very numerous, and variable in their extent, sometimes covering only a few acres, and at others spreading over the surface of the country for miles together. They are composed of slightly-elevated mounds, having the form of a truncated cone, about two feet in width at base, and seldom rising as high as eighteen inches above the surface of the soil. The entrance is placed either at the top or on the side, and the whole mound is beaten down externally, especially at the summit, resembling a much-used footpath.

From the entrance, the passage into the mound descends vertically for one or two feet, and is thence continued obliquely downwards, until it terminates in an apartment, within which the industrious marmot constructs, on the approach of the cold season, the comfortable cell for his winter's sleep. This cell, which is composed of fine dry grass, is globular in form, with an opening at top capable of admitting the finger; and the whole is so firmly compacted, that it might, without injury, be rolled over the floor.

It is delightful, during fine weather, to see these lively little creatures sporting about the entrance of their burrows, which are always kept in the neatest repair, and are often inhabited by several individuals. When alarmed, they immediately take refuge in their subterranean chambers; or, if the dreaded danger be not immediately impending, they stand near the brink of the entrance, bravely barking and flourishing their tails, or else sit erect to reconnoitre the movements of the enemy.

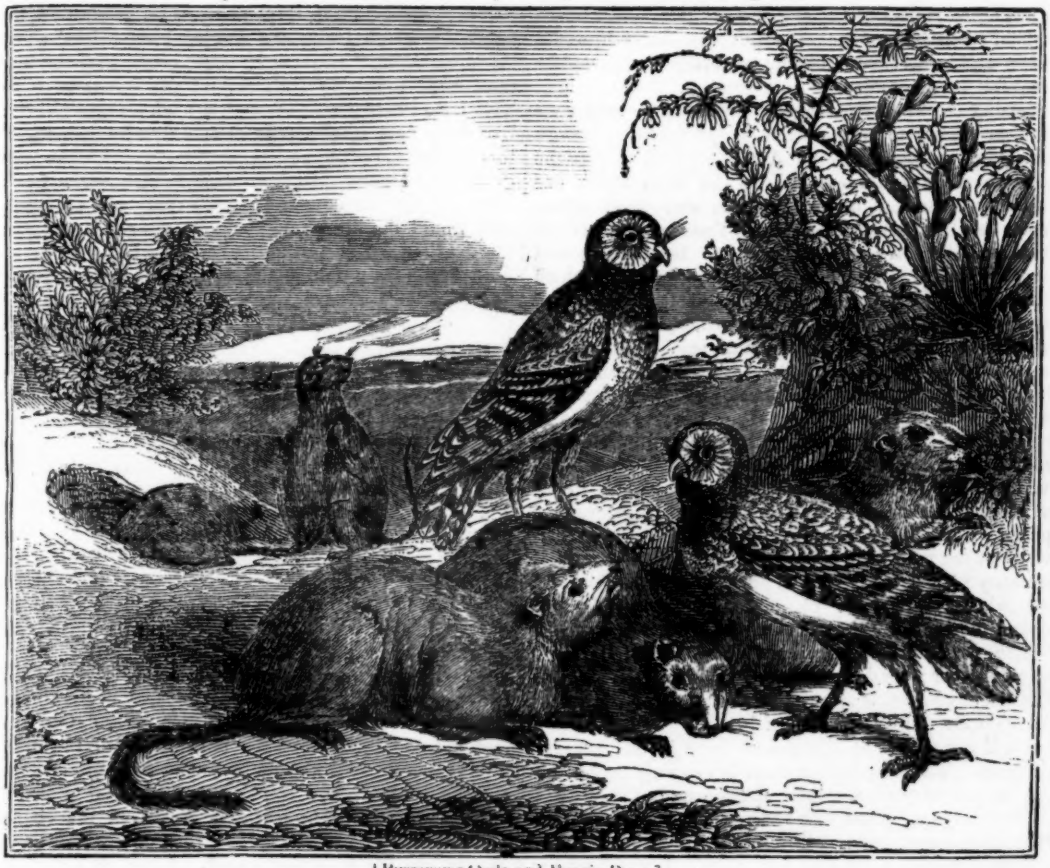
In all the prairie-dog villages the burrowing-owl is seen moving briskly about, or else in small flocks scattered among the mounds, and at a distance it may be mistaken for the marmot itself when sitting erect. They manifest but little timidity, and allow themselves to be approached sufficiently close for shooting; but if alarmed, some or all of them soar away and settle down again at a short distance; if further disturbed, their flight is continued until they are no longer in view, or they descend into their dwellings, whence they are difficult to dislodge.

The burrows into which these owls have been seen to descend, on the plains of the river Platte, where they are most numerous, were evidently excavated by the

marmot, whence it has been inferred by Say, that they were either common, though unfriendly residents of the same habitation, or that our owl was the sole occupant of a burrow acquired by the right of conquest. The evidence of this was clearly presented by the ruinous condition of the burrows tenanted by the owl, which were frequently caved in, and their sides channelled by the rains, while the neat and well-preserved mansion of the marmot showed the active care of a skilful and industrious owner. We have no evidence that the owl and marmot habitually resort to one burrow; yet we are well assured by Pike, and others, that a common danger often drives them into the same excavation, where lizards and rattlesnakes also enter for concealment and safety. The owl observed by Viellot, in St. Domingo, digs itself a burrow two feet in depth, at the bottom of which its eggs are deposited on a bed of moss, herb-stalks, and dried roots.

The note of our bird is strikingly similar to the cry of the marmot, which sounds like *cheh, cheh*, pronounced several times in rapid succession; and were it not that the burrowing-owls of the West Indies, where no marmots exist, utter the same sound, it might be inferred, that the marmot was the unintentional tutor to the young owl: this cry is only uttered as the bird begins its flight. The food of the bird we are describing appears to consist entirely of insects, as, on examination of its stomach, nothing but parts of their hard wing-cases were found.

The figure of the burrowing-owl is copied from C. Bonaparte's work, in which a representation of this singular bird was first given.



[Burrowing-Owls and Prairie-Dogs.]

ASCENT OF MOUNT ÆTNA.

[In No. 86 we gave a narrative of the recent eruption of Mount Ætna. The gentleman who favoured us with that description has furnished us with the following account of his previous ascent of the mountain.]

From what I have said about the eruption of 1832, you may perhaps feel an interest in hearing an account of a journey which I took up to the very summit of Ætna, only fifteen months prior to this. All was then perfectly still, nor was it until I arrived at the top that any traces of recent fire were visible. It was in the middle of August that I undertook this adventure.

I started from Riposto, where I took measures for my journey. Being the height of summer, it was rather difficult to believe that, even in the regions of Ætna, we could suffer from cold. However, as all travellers agreed that the cold of Ætna was the most piercing they ever endured, I preferred their report to any of my own theories; and it was well for me that I did. A good travelling roquelaure cloak, and a suit of winter clothing, which I put on at Nicolosi, were accordingly what I provided myself with. A gentleman of Riposto, at whose house I was kindly entertained, and who had several times before visited the mountain, accompanied me; which was a very fortunate circumstance, as I do not know any journey in which the company of one conversant in the roads and mazes of the path is so advantageous, I might say *necessary*, as in this; independent of our guide, whose sole business it is to show us our way.

We chose our time to a nicety. First, I had contrived matters so that I might have the benefit of the moon, which was very nearly full; and although accidents seldom happen, from the careful manner in which the mules pick their way, in the thickest obscurity, among the roughest and vilest roads imaginable, yet, from what I saw, I cannot say that I should prefer to go up Ætna in the dark, while it was possible to go in the light. And

yet the day-time is inconvenient, as one of the great objects is to reach the summit at sunrise. Some manage to get up to the "English house," as it is called, at sunset, sleep there, and proceed up the cone at twilight the following morning. Against this plan I have heard very strong objections on the score of health. The "English house" is in a region of perpetual frost; or at least where, if the heat of the sun in July and August thaw the snow during the day, the moment night comes on it again congeals. So sudden a transition from the plains to this has been productive of serious effects. To avoid this, we set out from Riposto about mid-day. We got to Nicolosi about sunset. Here we took some refreshment and rest. The moon rising about ten o'clock at night, we started, and kept on our way, halting a few minutes in the wood to give bait to our animals, and finally arriving at the English house an hour before sunrise. We put the mules into the stable, and proceeded on foot, reserving ourselves for breakfast on our return.

Setting off from Riposto, the country over which we have to travel, to judge from its productions, would consist of the richest soil I ever saw; and this is the case where it is not covered by the lava, which has evidently remained many centuries, and upon which vegetation has partially returned. The way that ground destroyed by lava regenerates has been accounted for as follows: there are frequent flaws in it which attract the dust, which in course of time forms a shallow layer of earth, producing weeds, which, when rotted, become the means of attracting more soil. The crevices and interstices are thus filled up with soil which is as rich as any other, and sometimes of great service; for the fibres of vines, and many other trees, the roots of which shoot deep into the earth, will be found to have entered these cracks or crannies, and there to have taken such a hold, that they cannot be torn up by heavy rains, or carried away by torrents. The time, however, required for this must be at least several centuries. The whole of the road from Riposto to Nicolosi is over lava, in many places so compact as not yet to be serviceable; but where there were plantations, none surely ever looked more beautiful and flourishing.

The road to Nicolosi is certainly the worst I ever travelled over; nor do I see how it is likely to be mended. The rise, however, is so gradual up as high as Nicolosi, that you are quite insensible of it.

Until our arrival at Nicolosi we were in our summer clothing. The temperature there is certainly cooler, but not to any very considerable degree, and, I hear, it is seldom they are visited with snow. The vineyards, however, do not continue much higher, for the woody region commences within three or four miles. I was here surprised to see none but large forest-trees, principally oak and elm, but no bushes or jungle. I noticed this more particularly on my descent the following day, and that the ground was overspread with fern and long grass only. I also observed that every one of these trees (some of them noble ones) were rotten at the core. There is a great sameness in the road through the forest, which may be from six to eight miles across. This has a beautiful appearance in looking at Ætna from a distance; a perfect ring being formed, which circumscribes it on all sides so exactly, that it much more resembles the work of art than of nature. The ascent became here considerably steeper, and before we had cleared the wood, we began to feel the cold. We got into the desert region about one o'clock in the morning.

The desert region we found in every respect worthy of the name. Here was a dead void—not only neither tree nor shrub, but not a weed to give us a sign that we were going over ground that had ever been trod by man, or inhabited by the living. There was not even a bird to cross our path. The bat and the owl had never probably been here; and what must be the depth of a solitude shunned even by these? We saw before us near ten long miles of black uneven surface, never varying but from loose cinders to rough lava-stone. It was indeed a dreary road. Our horses' hoofs rung with a melancholy sound on our ears. We spoke but little, and felt no inclination to converse. We wrapt our cloaks around us, and shut ourselves up in a "shroud of thoughts." This continued till we arrived at the "Casa Inglese," or English house, which is a hut useful to travellers who visit Ætna, standing at the foot of the cone, and most conveniently situated, inasmuch as the road at this part becomes so bad as to make it scarce passable for any animal. Visiters are obliged to dismount, and pick their way on foot, which they must do very carefully. We encountered a species of lava like nothing we before had passed. This resembled that substance which is thrown out of blacksmiths' shops, vulgarly called "clinkers." Our boots here suffered most wofully, nor do I think that the strongest would have lasted half a mile of such a road. On arriving at the steep part of the cone, it was equally difficult, but less perilous. I should think that a fall upon such ground as I have described must be dangerous in the extreme, for though one's hands may be at liberty, they would but ill defend you. It was ten times more uneven than the deepest ploughed field I ever saw; and from the little purchase the foot has when it rests on the points of this lava, the difficulty of retaining one's equipoise is greater than seems possible to those who have never been there. The ground deceives you by not yielding to the pressure of the foot, as you cannot help expecting it to do every moment. If ever you saw a cat pick her way along a wall, the ridge of which is fortified with broken glass, you will bring it to remembrance, and think that my passage at this juncture was neither more agreeable nor easy.

I can in some measure allow for the various and inconsistent accounts of this mountain which have been brought us by different travellers, all equally respectable in point of veracity, and yet differing so widely in particulars. Every eruption alters the face of things. Sometimes this change or this eruption is not visible; for example, in the previous December a dull flame was descried at the mouth of the crater, barely seen from Catania;—it only lasted three days, and was thought nothing of. This we found had been an eruption, which had considerably altered the appearance of the crater, and were surprised no one had named the circumstance, though it must have required one who had known the state it was in before to have perceived the change. Our guide led us up the side of the cone, which he was certain was the easiest of ascent. I had seen a picture taken from the spot, of travellers on the cone of Ætna, and observed at the time that it must have been greatly exaggerated, as it would not be possible to ascend what resembled a perpendicular rather than a slope. I now, however, found that the picture was too true. The fatigue here became immense. Then there was a wind, which had all the bitterness of the winter wind in England, without any of that force and buoyancy which the air has in the colder regions, whilst the continual ascent made my legs and thighs ache intolerably. I could not stop to rest, for I was always up to my knees in ashes, which underneath were quite warm, or if not, it was because the surface of the ashes was supported by a bed of snow. Sometimes one leg was in snow and the other in warm ashes. All the pits are filled with snow. I felt my strength going sensibly, and notwithstanding I had come all the way on purpose to visit the crater, I entirely gave up the task, and therefore, though not fifty yards from the mouth, began to descend. I thought, however, though I could not go up I might go round the cone, and proceeded accordingly; when, on

arriving at the south-western side of it, I found that the *wall* (if you may call it so) of the crater had been broken down by some recent violence, and that the way was open for us to enter, without either the difficulty of climbing up to the highest ridge or the danger of descending inside, an exploit which few travellers, however great their thirst for knowledge, willingly perform. You may conceive my delight on being able thus to view, without risk or trouble, the great phenomenon which so many a modern Pliny has come here for, and in vain. Had I had any conception I should have been able to have explored the crater, as I certainly think I might, I would have arranged for it, and made some observations which I am not without hopes would have been serviceable to future travellers. As it was, I arrived there exhausted from travelling all night on horseback, among ruts and precipices, where I was afraid to close my eyes, and was so fatigued by the ineffectual attempt which I made to reach the summit on the wrong side that my legs trembled under me, while the rarity of the air increased my difficulty in breathing. I sat down, and could have slept, so completely was I bereft of that ardour which had prompted me to undergo the toils of the journey. My regret is, that on finding such an opportunity for discovery I was not able to take advantage of it.

[To be concluded in our next.]

THE RAINBOW.

[The following reflections on this phenomenon are extracted from a work of considerable talent, Mr. Bucke's "Beauties, Harmonies, and Sublimities of Nature." We have been favoured with the author's corrections of the passage, as it is intended to appear in a third edition of his book, which is now preparing for the press.]

The poets feigned the rainbow to be the residence of certain aërial creatures, whose delight it is to wanton in the clouds. Milton, in his exquisite pastoral drama, thus alludes to this Platonic idea:—

> I took it for a fairy vision
> Of some gay creature in the element,
> That in the colours of the rainbow live,
> And play i' th' plighted clouds.

The rainbow, which, not improbably, first suggested the idea of arches, though beautiful in all countries, is more particularly so in mountainous ones; for, independent of their frequency, it is impossible to conceive any arch more grand (if we except the double ring of Saturn) than when its extreme points rest upon the opposite sides of a wide valley, or on the peaked summits of precipitate mountains.

One of the glories which are said to surround the throne of heaven is a rainbow like an emerald. In the Apocalypse it is described as encircling the head of an angel; in Ezekiel, four cherubim are compared to a cloud, arched with it; and nothing, out of the Hebrew scriptures, can exceed the beauty of that passage in Milton, where he describes its creation and its first appearance.

There is a picture, representing this emblem of mercy, so admirably painted, in the castle of Ambras, in the circle of Austria, that the grand duke of Tuscany offered a hundred thousand crowns for it. Rubens frequently gave animation to pictures, which had little beside to interest the eye of the spectator, by painting this phenomenon: one of Guido's best pieces represents the Virgin and Infant sitting on a rainbow: and round the niche in which stood a statue of the Virgin in the chapel of Loretto, were imbedded precious stones of various lustres, forming a rainbow of various colours.

The rainbows of Greenland are frequently of a pale white, fringed with a brownish yellow; arising from the rays of the sun being reflected from a frozen cloud. In Iceland it is called the Bridge of the Gods; and the Scandivavians gave it for a guardian a being called Heindaller. They supposed it to connect heaven with earth. Ulloa and Bouguer describe circular rainbows, which are frequently seen on the mountains, rising above Quito, in the kingdom of Peru; while Edward asserts, that a rainbow was seen near London, caused by the exhalations of that city, after the sun had set more than twenty minutes. A naval friend, too, informs me, that as he was one day watching the sun's effect upon the exhalations, near Juan Fernandez, he saw upwards of five and twenty *iris marinæ* animate the sea at the same time. In these marine-bows the concave sides were turned upwards; the drops of water rising from below, and not falling from above, as in the instances of aërial arches. They are sometimes formed, also, by waves dashing against the rocks: as may frequently be seen on the coast of Carnarvon, Merioneth, Pembroke, Cardigan, and Carmarthen.

In some rainbows may be discovered three arches within the purple of the common bow: 1. yellowish green, darker green, purple; 2. green, purple; 3. green, purple. Rain bows, too, are sometimes seen when the hoar-frost is descending; and Captain Parry, in his attempts to reach the North Pole by boats and sledges, saw a fog-bow, and no less than five arches formed within the main one, all beautifully coloured.

Aristotle states, that he was the first who ever saw a lunar rainbow: he saw only two in fifty years. He assuredly means he was the first who ever described one, since lunar rainbows must have been observed in all ages. That it was unknown to St. Ambrose, however, is evident, from his belief that the bow, which God promised Noah, he would place in the firmament, after the deluge, "as a witness, that he would never drown the world again," was not to be understood of the rainbow, "which can never appear in the night; but some visible virtue of the Deity." Not withstanding this assertion of St. Ambrose, I have had the good fortune to see several; two of which were, perhaps, as fine as were ever witnessed in any country. The first formed an arch over the vale of Usk. The moon hung over the Blorenge; a dark cloud suspended over Myarth; the river murmured over beds of stones; and a bow, illumined by the moon, stretched from one side of the vale to the other.

The second I saw from the castle overlooking the bay of Carmarthen, forming a regular semicircle over the Towy. It was in a moment of vicissitude; and fancy willingly reverted to that passage of Ecclesiasticus, where the writer describes Simon, shining "as the morning-star," and "as a rainbow" on the temple of the Eternal. The sky soon cleared, and presented a midnight scene like that, which Bloomfield has described so admirably:—

> "——above these wafted clouds are seen
> (In a remoter sky, still more serene),
> Others detached, in ranges through the air,
> Spotless as snow, and countless as they're fair;
> Scatter'd immensely wide from east to west,
> The beauteous semblance of a flock at rest.
> These, to the raptur'd mind, aloud proclaim
> Their mighty Shepherd's everlasting name.

THE FOUNTAIN OF THE ELEPHANT AT PARIS.

Among the features of the French capital which most remarkably distinguish it from London are to be reckoned its numerous fountains. From the more perfect manner in which the conveyance of water to the houses of the inhabitants is effected in London, public fountains or conduits in the streets are scarcely now required in any part of this city; although, before the introduction of the present system of water-works, we had them in considerable numbers. Like anything else placed in the middle of a great thoroughfare, such erections would be extremely inconvenient in modern London, where the busy traffic along all our principal streets demands every inch of room that can be obtained. But in our squares and other open places, fountains, with jets, might be introduced with a highly ornamental effect. The beauties of architecture and statuary might here be combined with other attractions especially appropriate to such green oases in the heart of a large dusty town—with the elegant forms of the projected water, and the feeling of coolness and refreshment always produced by the sight of that element in motion. The want of fountains and jets of this description,—for with the exception of that in one of the courts of the Temple, there is nothing of the kind in our squares, or even in the royal parks,—is one of the greatest defects of London.

In Paris, in 1825, according to Dulaure's history of that city, there were one hundred and twenty-seven public fountains. Many of these are very handsome structures; indeed, so important have they been con-

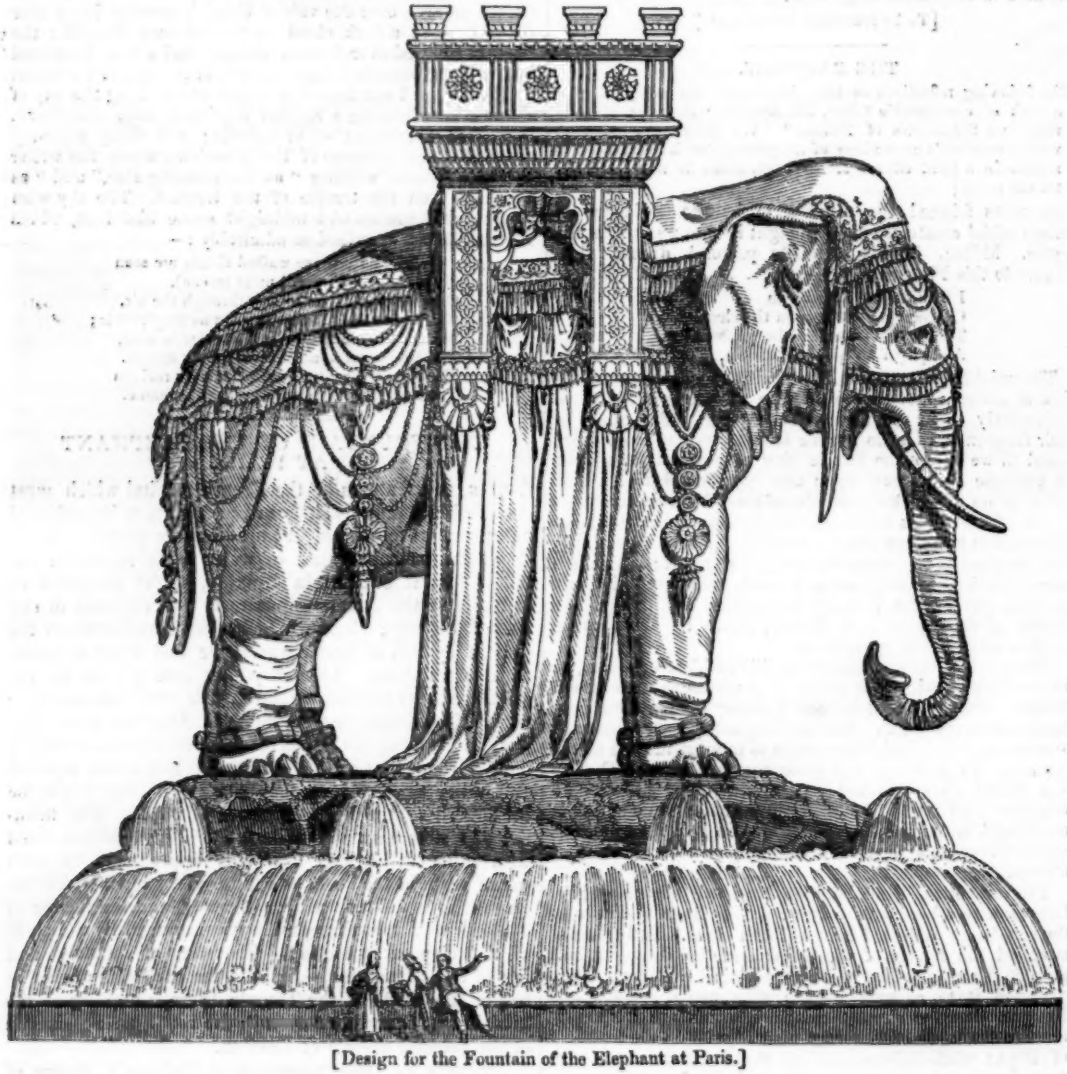
sidered as architectural monuments, that a collection of elaborate engravings of them has been published, accompanied with descriptions. The wood-cut which we give at the end of the present notice represents one which, although long designed, has never yet been erected—the famous Fountain of the Elephant. This was one of Napoleon's many projects for the embellishment of the capital of France. The Fountain of the Elephant was to have been erected in the centre of the oblong rectangular space which now occupies the site of the Bastille, between the canal of St. Martin and the Arsenal. It was one, and might be considered indeed the crowning one, of many improvements, which would almost have rendered this the most superb quarter of Paris. The decree for the erection of the fountain was dated on the 9th of February, 1810, and it named the 2nd of December, 1811, as the day on which the structure should be completed. The foundation, accordingly, was laid in the course of the year 1810; but to the present day nothing further has been done in the execution of the magnificent design. The model, however, in plaster-of-Paris, still exists; and even from that it may be felt how fine the effect of the intended erection would have been. This model is kept in a large shed where it was originally put up, close by the proposed site of the fountain. It may be seen upon proper application; and its enormous dimensions and fine proportions will abundantly repay the curiosity of the visitor.

Upon the massive pedestal of stone was to have been placed a colossal elephant in bronze, surmounted by a tower, as seen in the cut, the whole forming a figure of about eighty feet in height. A staircase leading up to the tower was to have been concealed in one of the legs of the figure, each of which was to have been six feet and a half in thickness. The fountain was to have been adorned with twenty-four bas-reliefs in marble, representing the arts and sciences.

The foundation and model of this unexecuted conception remain as memorials of how sometimes—

"Vaulting ambition doth o'erleap itself."

The bronze for the enormous elephant was to have been obtained from the cannons captured by the imperial armies in Spain, in that contest, then only in its first stage, the course and issue of which some time after contributed so materially to hurl from his throne the proud military chief, who thus so arrogantly anticipated conquest while on the eve of discomfiture and destruction.



[Design for the Fountain of the Elephant at Paris.]

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